

## ON THREE APPARENTLY NEW SPECIES OF TERMITAPHIS (Hem. Het.)<sup>1</sup> \*

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(Plate XXIV)

The following new species of *Termitaphis* were received for study from Dr. W. M. Mann, to whom they had previously been sent for examination by Dr. Alfred Emerson of the University of Pittsburgh.

The genus *Termitaphis* was first established by Wasmann <sup>3</sup> in 1902, but was not accurately characterized until 1911, when Silvestri <sup>4</sup> described two new members of the genus, presented a critical generic diagnosis and erected a new family in the suborder Heteroptera for its reception. Later, Mjöberg <sup>5</sup> gave a short description of a species obtained in Australia, with the promise to describe it in greater detail at some future date. This extended description has apparently never been published, and the original characterization is too brief to permit a comparison of Mjöberg's species with those described below.

Wasmann's species was obtained in Columbia, and the first species described below may possibly be identical with it, although this cannot be definitely established on account of the incompleteness of the description of the genotype and the probable inaccuracy of the figures given by Wasmann. It has accordingly been described as new.

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\* Tropical Research Station, Contribution Number 140.

<sup>1</sup> Tropical Research Station, Contribution Number 140.

<sup>2</sup> The figures illustrating the structural characteristics of these species have been worked out and prepared by Emily Morrison.

<sup>3</sup> Wasmann, E. Species novae Insectorum Termitophilorum ex America Meridionali. In Tidj. voor Ent. vol. 45, 1902, pp. 95-107, 9 pl.

<sup>4</sup> Silvestri, F. Sulla Posizione Sistemica del Genera Termitaphis Wasm. (Hemiptera), etc. In. Boll. del Lab. di Zool. Gen. e. Agraria della. Rsc. Sup. d'Agr. in Portici. vol. 5, 1911, pp. 231-236, fig. I-VI.

<sup>5</sup> Mjöberg, E. Preliminary description of a new representative of the family Termiticordidae Silv. In Entomologisk Tidskrift, etc. vol. 35, 1914, p. 98, 9 fig.

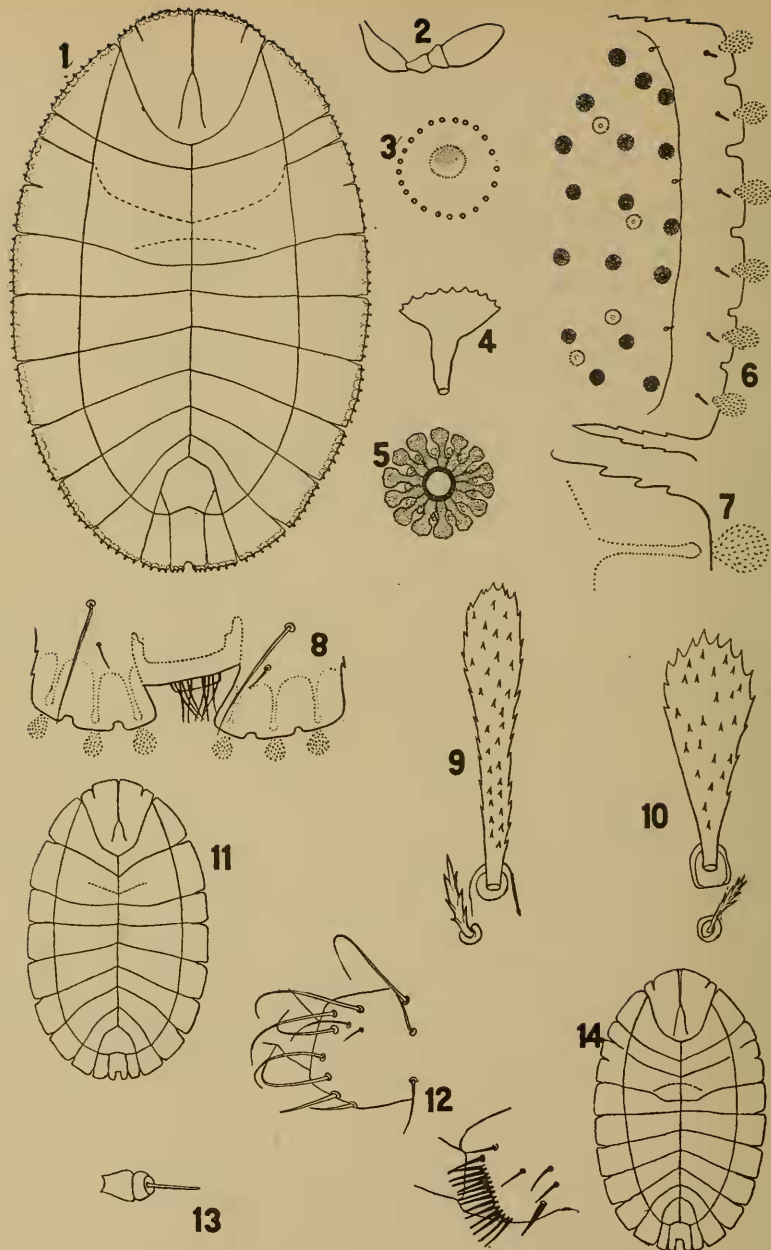


Plate XXIV.

*TERMITAPHIS* *GUIANAE* SP. NOV., *T. INSULARIS* SP. NOV.,  
*T. TRINIDADENSIS* SP. NOV.

*T. GUIONAE*.—1, outline of body showing shape, lobes and sutures, dorsal X30; 2, antenna, X57.5; 3, dorsal pore, X1280; 4, dorsal pore, second type side view, X1280; 5, same as 4, view from above, X1280; 6, marginal lobe of abdominal segment, dorsal, X220; 7, portion of 6 ventral view, X440; 8, apical abdominal lobes with anal opening ventral, X220; 13, dorsal seta, X1280;

*T. INSULARIS*.—9, marginal flabellum, X640, 11, outline showing marginal lobes and sutures, dorsal, X17.5.

*T. TRINIDADENSIS*.—10, marginal flabellum, X1280; 12, apex of anterior tibia, two sides, X220; 14, outline of body showing marginal lobes and sutures, dorsal, about X17.5.

*Termitaphis guianae* sp. nov.

(Plate XXIV, Figures 1 to 14)

Very similar to *T. mexicanus* as described by Silvestri, differing only in certain details: length 2 mm. width 1.44 mm., arrangement of the dorsal sutures, particularly the anterior pseudo-suture of the mesothorax, differing somewhat from that shown in Silvestri's drawing (cf. fig. 1 with fig. III of Silvestri's paper); the fourteen marginal lobes of each half of the body bearing tubes and flabella as follows, counting from the cephalic apex: 7, 3 (head); 9-10 (prothorax); 4, 4 (mesothorax); 4-5 (metathorax); 5-6, 6, 6-7, 6-7, 6, 6, 4, 3 (abdomen) the usual number for each prothorax lobe being nine, for each mesothoracic lobe, four, and for each metathoracic and abdominal lobe, anterior to the last two, six, differing in these from *mexicanus* where the usual number for the mesothoracic lobes is five, for the anterior abdominal lobes, seven, and for apical abdominal lobes, two instead of three flabella; these flabella with minute setae or denticulae over the entire surface as well as along margin and with similar minute setae very numerous on the lobes; lateral margins of each lobe conspicuously serrate, not smooth; derm pores of two sorts, some simple cylindrical tubes surrounded by a circular clear area, and with a funnel-shaped opening, others with an intricate radiate arrangement; with occasional stout setae dorsally, each set at the end of a tube through the derm; with two larger thoracic and six well developed but smaller circular abdominal spiracles followed by an incompletely developed seventh abdominal spiracle; anterior legs in addition to curved hairs and some stiff spines with a straight comb of long stiff hairs at apex of tibia; other characteristics, so far as can be observed, agreeing very closely with those of *mexicanus* as described and figured by Silvestri.

This species has been described from three specimens with the following information:

Kartabo, British Guiana, No. 48. Emerson.

*Host*.—*Leucotermes crinitus* (Emerson).

HOLOTYPE.—(A slide mount) and paratypes. Cat. No. 25034, U. S. National Museum.

*Termitaphis trinidadensis* sp. nov.

Very similar to the preceding, size almost identical, length 2 mm., width 1.5 mm., the chief differences being found in the somewhat more elongate and more slender marginal flabella and in the different numbers of marginal flabella for corresponding lobes of the body, the arrangement of these being as follows: 7:3 (head); 8 (prothorax); 4, 4 (mesothorax); 3-4 (metathorax); 4, 4, 4, 4, 4, 4, 3 (abdomen).

This species has been characterized from a single specimen with the following information:

“Port-of-Spain, Trinidad. 26-XI-20. Emerson. No. 495a.”

*Host.*—*Leucotermes tenuis* (Hagen).

*HOLOTYPE.*—(A slide mount). Cat. No. 25035. U. S. Nat. Museum.

*Termitaphis insularis* sp. nov.

Body somewhat more elongate than in the two preceding species, length, 2.75 mm.; width, 1.6 mm.; legs more elongate and more slender than with the last, more nearly resembling those of *T. guianae*; differing conspicuously from all the other accurately described species in that the body has only 12 lobes on each half and from the two preceding species in the much more elongate and slender marginal flabella, these resembling those of *T. subafra* Silvestri; the arrangement of these flabella as follows: 7, 3 (head); 10-11 (prothorax); 11 (meso and metathorax); 6, 7-8, 6-7, 7, 7, 6, 4, 3 (abdomen), the fusion occurring in the meso and metathoracic lobes, usually three on each side; in other respects quite similar to the two species already described.

Characterized from a single specimen with the following information:

“Port-of-Spain, Trinidad. 26, XI, 20. Emerson. No. 495a.”

*Host.*—*Leucotermes tenuis* (Hagen).

*HOLOTYPE.*—(A slide mount). Cat. No. 25036. U. S. Nat. Museum.

There may be seen in the posterior portion of the abdomen of the specimen on which this species is based, some curled and twisted tubes and some other less definite, apparently chitinized structures which suggest themselves as possibly retracted male sexual organs. No definitely developed copulatory or other external sexual modifications of the apex of the abdomen, such as are to be found in many of the Heteroptera, have been noted in these specimens, and nothing appears to be known regarding the differences in sexes in the genus. Since the last two species described were received in the same container, and were collected from the same nest of termites, the further possibility presents itself that they are the two sexes of one species, although the obvious differences in certain of the comparable structural characters fully justifies their separation at this stage of our knowledge of these insects.

By way of comment, it may be noted that the writer's interpretation of the body segmentation differs from that given by Silvestri in his generic diagnosis and in his figures of both *mexicanus* and *subafra*. In both species Silvestri shows a total of fourteen lobes for each half of the body of which two are allotted to the head, two to the prothorax, two to the mesothorax, one to the metathorax, and one each to five complete and two incomplete abdominal segments. It would appear that Silvestri failed to observe the anterior thoracic spiracles, located close to each prothoracic coxa, and highly probable that his specimens actually possess a partially suppressed seventh abdominal spiracle, as do all of those examined in connection with the preparation of the preceding descriptions.

These two additions give a total of nine more or less developed spiracles for the genus, instead of seven as given by Silvestri, of which the two anterior are slightly but distinctly larger and appear to be placed at the anterior margins of the under surface of the meso and metathorax, leaving seven pairs for the abdomen and resulting in a reassignment of the marginal lobes of those species having fourteen lobes to each half of the body as follows: two to the head; one to the prothorax, two to the mesothorax, one to the metathorax, and eight to the abdomen.

Silvestri's key to the species of this genus may be modified as follows to include the newly described species:

- a. Flabella of marginal lobes simple entire setae<sup>6</sup>  
*circumvallata* Wasm.
- aa. Flabella of marginal lobes broader, spatulate, margins minutely serrate.
  - b. Margin of body with fourteen lobes to each half.
  - c. Marginal flabella short and broad, at most hardly more than twice as long as wide.
  - d. Apical abdominal segments with two flabella on each lobe; anterior abdominal segments normally with seven flabella on each margin  
*mexicanus* Silv.
  - dd. Apical abdominal segments with three flabella on each lobe; anterior abdominal segments normally with six or fewer flabella on each margin.
  - e. Anterior abdominal segments normally with six flabella on each margin; legs relatively slender.....*guianae*, sp. nov.
  - ee. Anterior abdominal segments normally with four flabella on each margin; legs relatively short and stout.....*trinidadensis*, sp. nov.
- cc. Marginal flabella elongate, slender, the length much more than twice the width.....*subafra* Silv.
- bb. Margin of body with twelve lobes to each half; flabella elongate.....*insularis*, sp. nov.

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<sup>6</sup> Based only on figures and description of Wasmann.